# METHODOLOGY

The techniques used in this survey adhere to statistical standards used in the survey industry. The methodology used in this survey was identical to that followed in citizen surveys conducted by this firm in previous years (1998 and 2001). Please keep the following points in mind when evaluating this report:

(1) The sample for the telephone survey was composed of 402 residents from the city of Bryan. Respondents were selected at random. The sample was drawn using a geographical segmentation scheme that divided the study region into 5 major areas, replicating city council districts. Each area was assigned a quota proportional to the number of households with available telephone numbers. This same sampling methodology and segmentation scheme was utilized for the previous survey. A survey with a random sample size of 402 respondents is accurate to within 5% at the 95% confidence level. This means there is only one chance in twenty that the survey results may vary by as much as plus or minus 5% from the results that would be obtained by polling the entire population of the study area.

(2) All telephone interviews were conducted by professional interviewers under close professional supervision by Raymond Turco & Associates from our Grand Prairie, Texas, telephone call center. Interviews were recorded under controlled situations to minimize measurement error. The length of interviews varied with the average survey lasting approximately 16 minutes. For comparison purposes, the average length in both previous surveys was 14 minutes.

(3) Only complete surveys were accepted as part of the sample for the telephone survey, and interviewers were required to confirm the respondent's name and telephone number.

(4) Certain questions were written to permit the respondent to answer "no opinion." This was done so as to avoid the artificial creation of attitudes on issues where the interviewee may not have had an opinion.

(5) Telephone interviewing began on March 23, 2004. The 400 interviews were completed by March 31. The survey was thus in the field for nine (9) days, a short enough time period to make this an accurate reading during the time period the study was being implemented. For comparison purposes, previous surveys were March (2001) and May (1998).

(6) Completed questionnaires were checked for compliance with interviewing and sampling specifications.  All editing and validation of interviews, coding of open-ended responses, data processing and computer analysis were processed by Raymond Turco & Associates of Arlington, Texas.  The survey analysis was prepared by Ray Turco, President.

# SURVEY ACCURACY

Contrary to what may appear to be common sense, the accuracy of a telephone survey is not greatly influenced by the proportion of the total population that is interviewed. Instead, within a controlled environment, survey accuracy is directly related to the number of individuals interviewed. That is, a survey of 500 people out of a total population of 1,000 will yield results that are as accurate as a survey of 500 taken from a total population of 10,000.

For all practical purposes, the accuracy of "large" surveys (those involving more than 100 interviews) is approximately one divided by the square root of the number of interviews. For example, the error percentage or survey accuracy for a survey of 100 people is approximately plus or minus 10 percent (1 divided by 10). A survey of 625 people will have an error level of approximately 4 percent (1 divided by 25).

However, these error rates or accuracy levels must be applied and interpreted with three important caveats in mind. First, these are the 95 percent confidence limits. This means that given a sample of 625 people, 95 times out of 100 the "true" result will lie within plus or minus 4% of the observed answer.

Secondly, this error percentage applies solely to binary (yes/no, agree/disagree) questions. For example, if 55 percent of a sample of 625 voters said they would vote for candidate A, then you can be 95% sure that candidate A's "true" support lies between 51 and 59%.

Finally, the error percentage calculated as 1 divided by the square root of the number of responses is the "worst case" error. That is, it is based on the initial assumption that the percentage that is being estimated via the survey is 50 percent. If, from some other source, it is known or assumed that the "true" percentage differs from 50 percent, the actual survey error is less than that based on a 50% "true" percentage value.

Considering this information, a survey with a random sample size of 500 respondents is accurate to within approximately 3% - 5% at the 95% confidence interval. This means there is only one chance in twenty that the survey results may vary by as much as plus or minus 3% - 5% from the results that would be obtained by polling the entire population of the full study area.

As previously discussed, the statistical error decreases as the proportion answering the question in a given way moves away from 50% and as the

number of persons responding to a given question increase. The sampling error confidence interval for various proportions responding in a given way and for various numbers in the full sample responding are given in the following table:

## TABLE #1: SAMPLING ERROR AT 95% CONFIDENCE LEVEL

| PERCENTAGE GIVING ANSWER | NUMBER RESPONDING TO QUESTION | | | | |
|---|---|---|---|---|---|
| | 50 | 100 | 250 | 500 | 600 |
| 50% | 14.1% | 10.0% | 6.3% | 4.5% | 4.1% |
| 40% or 60% | 13.9% | 9.8% | 6.2% | 4.4% | 4.0% |
| 30% or 70% | 13.0% | 9.2% | 5.8% | 4.1% | 3.7% |
| 20% or 80% | 10% | 8% | 5% | 4% | 3% |
| 10% or 90% | 9% | 6% | 4% | 3% | 2% |

In actual practice, survey results are frequently somewhat better than is indicated by the 95% confidence level sampling error estimate.